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Statistical Bulletin

METROPOLITAN LIFE INSURANCE COMPANY

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A Centennial of Public Health*

THE YEAR 1948 marks the centennial of the modern public health movement, which was launched in England in 1848 with the passage of the first Public Health Act and the establishment of the first General Board of Health in London. From these beginnings have come the extraordinary developments of sanitary and hygienic services which have made life safer and happier throughout the entire civilized world. The past century, indeed, has been an era of public health and medical advancement unparalleled in human history.

How successful have been the efforts to reduce mortality in this period is clearly evident from the table on the following page. A comparison of the figures for Massachusetts for the period 1856-1865, the earliest reliable data in our country, with those for 1945 shows a drop of 32 percent in the death rate from all causes combined. In England and Wales, the improvement was somewhat greater, namely, 43 percent. Infant mortality in the same period was reduced 82 percent in Massachusetts and 70 percent in Great Britain. Of special interest are the details with respect to individual causes of death, although it is somewhat difficult to make reliable comparisons with records of a century ago because of differences in the classification of disease. The mortality from typhoid fever has been virtually eliminated, and the same is true of diphtheria, measles, scarlet fever, whooping cough, diarrhea and enteritis, and smallpox. Great gains have also been made against tuberculosis. Less than a century ago, the death rate from this disease in Massachusetts was close to 450 per 100,000; now it is less than 40 per 100,000, a reduction of more than 90 percent.

Another way to gauge what has been accomplished is to compare the average length of life (the expectation of life at birth) at the beginning and at the end of this memorable century. In 1850, the expectation of life of a male at birth was 38.3 years in Massachusetts; in 1940 it was 63.3 years. For white females the corresponding increase was from 40.5 to 67.6 years. Because there has been some added improvement since

*This article is based upon a paper presented by Dr. Louis I. Dublin, Second Vice-President and Statistician of the Metropolitan Life Insurance Company, before the American Public Health Association at the 76th Annual meeting in Boston, November 9, 1948. The paper in its entirety will appear in the American Journal of Public Health, December 1948, Vol. 38, page 1635.

1940, it can safely be said that between 1848 and 1948 there has been a gain of more than 25 years in the average length of life for males and of about 28 years for females.

As a result of the gains in longevity in our country, millions of people have been saved from premature death. The duration of the working period of life has been greatly extended, making possible increased production and a higher standard of living for the American people. Huge numbers have been enabled to reach the older ages, having enjoyed a full life freed, for the most part, from the heavy impact of the diseases which plagued the population a hundred years ago. Widowhood and orphanhood, which in decades past produced enormous demands on our charities and welfare services, have been greatly reduced. Social service workers no longer need concentrate their energies on patching up the maladjustments that result from the premature death of a breadwinner, but can now use their skills on positive programs. It is not an exaggeration to claim that the current prosperity and leadership of the United States in world affairs flow in good part from the achievements of the last century in the field of medicine and its auxiliary health services.

The public health movement in the years to come will undoubtedly continue to expand and to broaden the scope of its activities. Greater at-

DEATH RATES PER 100,000 FROM SPECIFIED CAUSES OF DEATH
MASSACHUSETTS, 1945 AND 1856-65; ENGLAND AND WALES, 1945 AND 1851-60

CAUSE OF DEATH	MASSACHUSETTS			ENGLAND AND WALES		
	1945	1856-65	Percent Decline	1945	1851-60	Percent Decline
All Causes	1,222.3	1,795.0	31.9	1,261.3	2,222.0	43.2
Infant Mortality per 1,000 Live Births	31.6	174.4	81.9	46.0	154.0	70.1
Typhoid Fever and Paratyphoid	0.1	92.5	99.9	0.1	57.0	99.8
Diphtheria and Croup	0.3	86.1	99.7	1.8	52.0	96.5
Measles	0.2	17.1	98.8	1.9	41.0	95.4
Scarlet Fever	0.2	101.3	99.8	0.2	80.0	99.8
Whooping Cough	0.5	23.8	97.9	1.8	50.5	96.4
Smallpox	0.0	11.0	100.0	0.0	22.0	100.0
Diarrhea and Enteritis	4.3	166.0*	97.4	†	†	—
Tuberculosis (all forms)	39.3	446.4	91.2	61.5	347.6	82.3
Pneumonia (all forms)	48.7	107.4	54.7	†	†	—

*1856-60.

†Comparable data not available.

Source: Data for Massachusetts for 1856-65 abstracted from "The Diseases of the Inhabitants of the Commonwealth," by Henry D. Chadwick, M.D., New England Journal of Medicine, June 10, 1937, pp. 1010 and 1013. Data for England and Wales 1851-60 from The Registrar Generals Statistical Review, 1923, p. 35, and England and Wales, Annual Report of Births, Deaths and Marriages 1920, p. 35.

tention will need to be concentrated on the diseases of middle and later life as the proportion of older people in the population increases. Likewise, far more needs to be done in the field of mental health, including training of personnel and making more adequate provision for the treatment of the mentally ill. Much has yet to be accomplished in reducing the large annual toll from accidents. To accomplish these tasks the public health profession will need to reorient itself with respect to its objectives and to pattern its activities in line with future needs.

Tuberculosis Problem Shifting to Later Life

THE MORTALITY from tuberculosis continues its impressive downward sweep. It now appears almost certain that the death rate from the disease will register an all-time low in 1948. Among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company, the death rate for the first 10 months of the year was 13 percent below that for the corresponding period of 1947, the previous minimum. Particularly noteworthy is the fact that among insured white females the rate has fallen below 20 per 100,000 in recent years. That such a low level could be attained, especially in urban wage-earning families, would have been thought impossible a generation ago.

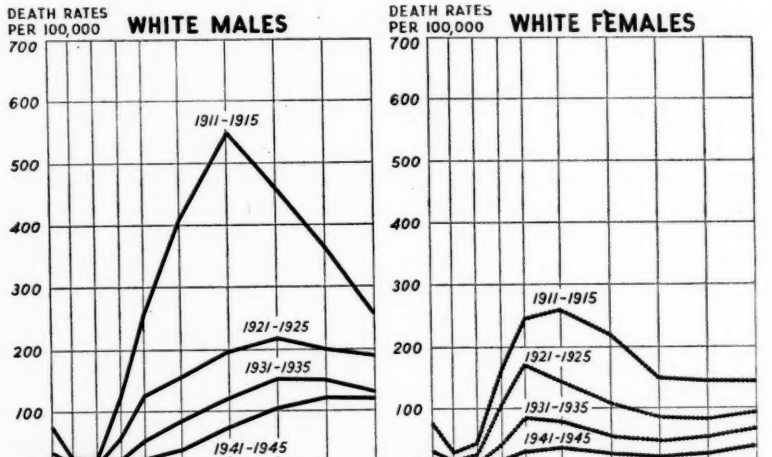
Large reductions in the death rate from tuberculosis have been recorded at every age period, but the greatest declines are observed at the younger ages. Thus, among white male policyholders the decline between 1911-1915 and 1943-1947 exceeded 90 percent in the ages under 35 years, whereas at 55 to 64 years the drop was 67 percent and at 65 to 74 it was 52 percent. Among white females the differences in the relative decline by age were not so large. The death rate from tuberculosis among them fell approximately 90 percent at every age period up to 55 years; but even at 65 to 74 years the reduction was 75 percent.

The differences in the rate of decline by age have brought about a progressive change in the contour of the age curve of mortality. This is clearly evident from the chart on page 4. Among white males, the peak mortality has shifted, step by step, from the age group 35 to 44 years in 1911-1915 to 55 to 64 in 1941-1945. (In more recent years, the age of maximum mortality has shifted further to the age group 65 to 74.) In 1911-1915, the death rate at the age group 35 to 44 was 50 percent higher than the figure at 55 to 64, whereas in 1941-1945 it was 37 percent lower.

Among insured white females the change in the age contour of tuberculosis mortality was somewhat different from that among males. At present the curve shows a double peak—at ages 25 to 34 and 65 to 74, the latter being somewhat the higher of the two. In 1911-1915, the curve was definitely at a maximum at 25

TUBERCULOSIS—ALL FORMS

AVERAGES OF ANNUAL DEATH RATES. WHITE PERSONS BY SEX, AGES 1 TO 74 YEARS. METROPOLITAN LIFE INSURANCE COMPANY, WEEKLY PREMIUM-PAYING BUSINESS, 1911-1915 TO 1941-1945



to 34 years, the rate at that age group exceeding the figure at 65 to 74 by 81 percent. Moreover, it should be noted that at the beginning of this series, the death rate among white females 15 to 19 years was well above the rate for women over 45, but that now the rate at the younger age group is below that at middle and later life.

These facts clearly indicate that the tuberculosis problem is being concentrated to an increasing degree at the older ages. This trend will be accentuated in the future as the proportion of elders in our population continues to rise. It is important to note that the peak rates now prevailing at the older ages reflect primarily the reactivation of tuberculous lesions acquired in earlier life. These older people are survivors from a period when the disease was widespread. A generation or more ago, relatively few people were free of tuberculosis contacts, particularly in urban areas. According to studies at that time, virtually everyone who reached adult life reacted positively to the tuberculin test, thus showing evidence of infection. This is no longer true. Even in urban areas a surprisingly large proportion of young people have escaped infection, as shown by the percentage of non-reactors to tuberculin tests. In some rural areas in the Middle West, recent studies show all the children to be non-reactors. Among grade school children in Massachusetts, the pro-

portion recording a positive reaction fell from 28 percent in 1924 to 14 percent in 1939, a reduction of one half within 15 years. Further evidence of the success being achieved against tuberculosis, is afforded by the findings in Selective Service examinations in the two World Wars. In the earlier conflict, there were 29.8 cases of tuberculosis found per 1,000 selectees, whereas in World War II the incidence was down to 19.1, a drop of about one third. The recorded reduction is undoubtedly an understatement, inasmuch as considerably better methods for the detection of the disease, including the large-scale use of chest X-ray, were used in the recent war.

That older persons now constitute the major focus of tuberculous infection is emphasized by recent autopsy studies, which show that a relatively large number of persons supposedly succumbing to diseases other than tuberculosis were found to have this disease in active form. It is recognized that the disease in older persons is frequently mild and that the symptoms may be overlooked. Consequently, the value of mass X-ray campaigns will be greatly enhanced if special effort is made to bring older persons into their operations. This will help to reveal the existence of many unrecognized and innocent spreaders of tubercle bacilli, and to speed protection for their families and their co-workers. Effective case finding and more adequate care of the tuberculous in our older population will give great impetus to the eradication of the disease, which even at present is an important cause of death and of disability in our country.

Further Progress in Longevity Expected

THE EXTENT to which man has succeeded in gaining control over his environment is perhaps best measured by the increase in his average length of life. In our country the record has been exceedingly favorable, as is evident from the tables and the chart below.

The average length of life (expectation of life at birth) in the United States jumped from 49.24 years at the beginning of the century to 66.69 years in 1946, an increase of about 17½ years. Females made a better showing than males among both white and colored persons, thus widening further the difference in longevity between the sexes. For white females, the expectation of life at birth in 1946 exceeded by about one quarter of a year the biblical "three score and ten." The expectation for white males was 65.12 years; for the colored, the figures for females and males were 61.02 and 57.49 years respectively, both considerably below those for white persons. In each color and sex group, gains in longevity are observed at every age period, the largest gains being found at the earlier ages.

The prospects are bright, indeed, for adding more years to the average length of life in the near future.

TABLE 1—EXPECTATION OF LIFE AT BIRTH AND AT AGES 40 AND 65 IN THE UNITED STATES, ACCORDING TO SEX, FOR SELECTED PERIODS FROM 1900 TO 1946.

YEAR OR PERIOD	AT BIRTH				AT AGE 40		AT AGE 65	
	WHITE		COLORED*		WHITE		WHITE	
	Males	Females	Males	Females	Males	Females	Males	Females
1946†	65.12	70.28	57.49	61.02	30.91	34.79	12.65	14.48
1945†	64.44	69.54	56.06	59.62	30.55	34.41	12.44	14.27
1944†	63.55	68.95	55.30	58.99	30.39	33.97	12.27	13.91
1943†	63.16	68.27	54.65	57.97	29.97	33.47	11.98	13.58
1942†	63.65	68.61	54.28	58.00	30.27	33.86	12.30	13.95
1939-1941†	62.81	67.29	52.26	55.56	30.03	33.25	12.07	13.56
1930-1939†	60.62	64.52	50.06	52.62	29.57	32.24	11.90	13.13
1929-1931†	59.12	62.67	47.55	49.51	29.22	31.52	11.77	12.81
1920-1929‡	57.85	60.62	46.90	47.95	29.35	30.97	11.78	12.52
1919-1921‡	56.34	58.53	47.14	46.92	29.86	30.94	12.21	12.75
1909-1911§	50.23	53.62	34.05	37.67	27.43	29.26	11.25	11.97
1901-1910§	49.32	52.54	32.57	35.65	27.55	29.28	11.40	12.13
1900-1902§	48.23	51.08	32.54	35.04	27.74	29.17	11.51	12.23
Gain: 1900–1902 to 1946	16.89	19.20	24.95	25.98	3.17	5.62	1.14	2.25

NOTE—The life tables for 1945 and 1946 were prepared and published by the National Office of Vital Statistics and those for the years 1942 to 1944 by the Statistical Bureau of the Metropolitan Life Insurance Company; life tables for prior years were published by the United States Bureau of the Census.

*Data for periods from 1900 to 1931 and 1939 to 1941 relate to Negroes only.

†Continental United States.

‡Registration States of 1920.

§Original Death Registration States.

This optimistic outlook is based on the assumption that wider and more intensive application will be made of existing knowledge in medical and sanitary science. It is expected, at the same time, that further advances will be made in our standard of living through better food and dietary habits, improved housing conditions, more ample protection against occupational hazards and accidents generally, and more extensive recreational facilities. All these forces reinforcing each other can effect further reductions in mortality and thus improve longevity.

In the past, hypothetical life tables based upon forecasts of mortality have generally underestimated the progress which was later actually achieved. Whelpton, for example, found that his "medium" mortality forecasts for the period 1940-1945 overstated actual mortality experience by 2.8 percent.* Even his "low" mortality forecasts overstated the actual figure by 1.8 percent. It appears, therefore, that Whelpton's "low" mortality assumption provides a conservative basis for fore-

*P. K. Whelpton, "Forecasts of the Population of the United States, 1945-1975." Bureau of the Census, Washington, D. C., 1947, p. 14.

casting the longevity that may be attained in the United States in the near future.

Life tables computed on the Whelpton assumption of "low" mortality show an average length of life of 68.4 years for 1960, and 71.4 years for 1975. These figures thus indicate a possible gain of almost five years in the average length of life in our country in the next three decades. At age 20, the prospective gain in expectation of life amounts to 3½ years; at age 40 it is 2¾ years, and at age 60 almost one year. The largest gains, as in the past, are expected at the younger ages.

The lengthening of life since the beginning of the century and that expected in years to come mean, of course, great increases in the chances of survival from birth to later ages. The chart on page 8 shows that under mortality conditions in 1900-1902 nine tenths of the live-born babies survived barely two thirds of a year; according to mortality in 1946, the same proportion lived practically 40 years, and by 1975 it is expected that nine tenths of the newborn will live about 50 years. A marked shift has occurred also in the age to which three quarters of the live-born will survive—from age 24

TABLE 2—EXPECTATION OF LIFE IN THE UNITED STATES AT SPECIFIED AGES BY COLOR AND SEX, 1946 AND 1900-1902

AGE	1946†					1900 to 1902*				
	TOTAL PERSONS	WHITE		COLORED		TOTAL PERSONS	WHITE		NEGRO	
		Males	Females	Males	Females		Males	Females	Males	Females
0	66.69	65.12	70.28	57.49	61.02	49.24	48.23	51.08	32.54	35.04
1	68.09	66.59	71.31	59.83	62.93	55.20	54.61	56.39	42.46	43.54
5	64.57	63.07	67.75	56.57	59.58	54.98	54.43	56.03	45.06	46.04
10	59.83	58.35	62.96	51.88	54.83	51.14	50.59	52.15	41.90	43.02
15	55.06	53.61	58.13	47.21	50.11	46.81	46.25	47.79	38.26	39.79
20	50.40	48.98	53.36	42.76	45.68	42.79	42.19	43.77	35.11	36.89
25	45.85	44.44	48.66	38.62	41.56	39.12	38.52	40.05	32.21	33.90
30	41.29	39.87	43.97	34.61	37.44	35.51	34.88	36.42	29.25	30.70
35	36.78	35.34	39.33	30.65	33.37	31.92	31.29	32.82	26.16	27.52
40	32.38	30.91	34.79	27.00	29.65	28.34	27.74	29.17	23.12	24.37
45	28.13	26.66	30.34	23.44	25.96	24.77	24.21	25.51	20.09	21.36
50	24.11	22.67	26.04	20.36	22.76	21.26	20.76	21.89	17.34	18.67
55	20.35	19.02	21.95	17.68	19.71	17.88	17.42	18.43	14.69	15.88
60	16.82	15.64	18.05	15.17	16.94	14.76	14.35	15.23	12.62	13.60
65	13.64	12.65	14.48	12.74	14.59	11.86	11.51	12.23	10.38	11.38
70	10.85	10.03	11.33	10.64	12.53	9.30	9.03	9.59	8.33	9.62
75	8.38	7.72	8.58	8.64	10.46	7.08	6.84	7.33	6.60	7.90

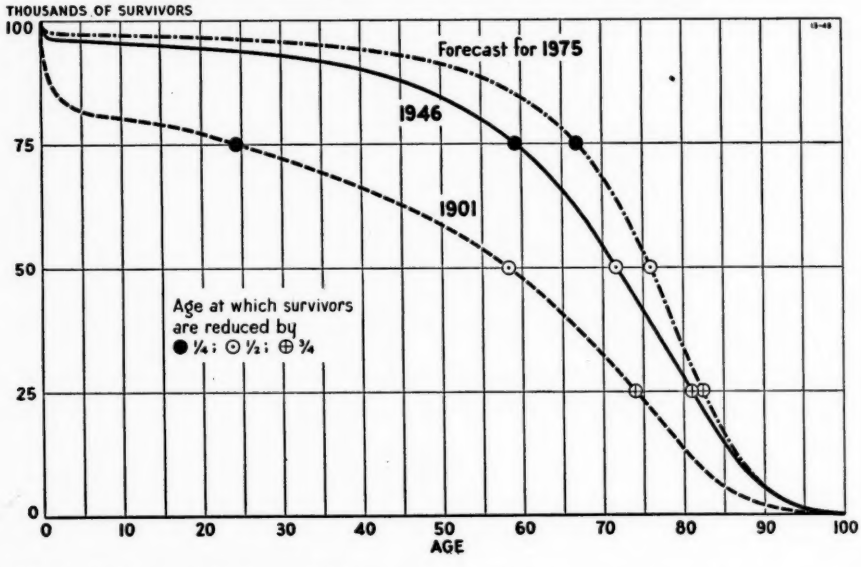
Source: National Office of Vital Statistics, Release dated July 26, 1948, Washington, D. C., and Bureau of the Census, "United States Life Tables 1890, 1901, 1910, and 1901-1910", Washington, D. C. 1921.

*Original Death Registration States.

†Continental United States.

SURVIVORS FROM BIRTH TO SUCCESSIVE AGES

According to Life Tables for United States, 1901, 1946 and Forecast for 1975*



*On basis of low mortality forecast by Bureau of the Census 1947

Metropolitan Life Insurance Company

in 1900-1902, to age 59 in 1946, and further to age 67 in 1975. At the halfway survivorship mark, the figure advances from 58 years at the beginning of the century to 72 years in 1946, and the indications are that it will be about 76 years in 1975. Even the point to which one quarter of those born will survive is expected to shift from age 74 in 1900 to more than 80 in 1975.

As further experience unfolds, it would not be surprising if the life table for 1975 should again prove to be too conservative. This does not mean, however, that future gains in longevity will be achieved as readily as those in the past. On the contrary, further gains will require, for comparable accomplishment, even a higher price in time, effort, and funds than we have been accustomed to pay. But the rewards will undoubtedly far outweigh the expenditures in terms of longer, healthier, and happier lives.

Maternity Can Be Still Safer

THE HAZARDS of childbearing have been declining steadily in our country since the beginning of the 1930's. As a consequence, the maternal death rate of American women is now only one fifth of what it was about two decades ago. The rate in 1947—about 15 deaths per

10,000 live births—is the lowest on record, and it is probable that this year's rate will drop still further. Indeed, so notable has been the progress in reducing maternal mortality, that there now are about a dozen States in which fewer than 10 puerperal deaths occur for each 10,000 live births registered. In contrast, prior to 1930 the country's maternity toll fluctuated at the level of 70 deaths per 10,000 live births, and it was not below 43 in any State. There are at least 18,000 fewer deaths of women from these causes a year in the United States than there would have been, had the mortality of 1930 continued to prevail.

Many forces have contributed to this outstanding achievement. Women in increasing numbers have received the benefits of good prenatal care and of hospitalized delivery. At the same time, marked advances have been made in every phase of obstetrical practice. The sulfa drugs and penicillin have been the spearhead of the attack against puerperal infection, with the result that the death rate from this cause has been reduced at least two thirds since 1935. Similarly, the more frequent use of blood transfusions has brought about an appreciable reduction in the number of deaths from hemorrhage and shock.

While maternity has become much safer, there is still considerable room for improvement. The death rates from the major causes of maternal mortality among white women appear in the upper tier of the table on page 10. Infection, although largely preventable, is still the leading cause of puerperal mortality and accounts for more than one third of the deaths incidental to childbearing. Many deaths from this cause occur at every stage of maternity—during pregnancy, and during and after delivery. In 1946 puerperal infection took more than 1,300 white lives in the United States, one quarter of them associated with abortion. Hemorrhage (including trauma or shock) is second to infection as a cause of maternal mortality, and is responsible for nearly one third of the deaths. The toxemias account for almost one quarter of the total, and the residual group "other puerperal causes" for about one tenth. It is evident from the table that the hazards of childbearing are greatest at the older ages.

The lower part of the table shows the percent distribution of puerperal deaths according to time of death in relation to delivery. It is a striking fact that almost two thirds of the maternal deaths occur during or after childbirth. In many of these cases the pathological condition unloubtedly existed before labor began, but it is probable that a considerable number of deaths were due to causes arising during childbirth. Abortions contribute about one seventh of the deaths; this figure understates the actual loss of life, inasmuch as a number of deaths from abortion are reported as due to other causes. Even the death toll from ectopic gestation (the development of the fetus outside the uterus) is not negligible.

The hazards of childbearing can

MORTALITY FROM PUERPERAL CAUSES, WHITE FEMALES, BY AGE
UNITED STATES, 1945–1946

CAUSE OF DEATH	ALL AGES	UNDER 20	20–24	25–29	30–34	35–39	40–44	45 AND OVER
	MATERNAL MORTALITY RATE PER 10,000 LIVE BIRTHS							
ALL PUERPERAL CAUSES	14.9	12.3	9.3	11.5	17.0	30.0	52.5	95.0
Infection	5.3	4.5	3.3	4.2	6.3	10.1	16.8	28.5
Hemorrhage, trauma or shock	4.7	2.3	2.4	3.7	5.8	10.9	18.9	36.9
Toxemia	3.5	4.5	2.6	2.5	3.5	6.3	12.1	24.3
Other puerperal causes	1.4	1.0	1.0	1.1	1.4	2.7	4.7	5.3
	PERCENT OF ALL PUERPERAL DEATHS							
ALL PUERPERAL DEATHS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Abortion	14.3	20.5	15.7	14.8	14.3	11.9	11.1	10.0
Ectopic pregnancy	5.6	2.5	3.6	6.0	7.3	6.4	5.2	4.5
Death before delivery	14.4	16.5	14.1	14.1	14.1	13.5	17.4	12.2
Death during or after delivery	65.7	60.5	66.6	65.1	64.3	68.2	66.3	73.3

NOTE—Data on puerperal deaths for 1946, supplied by the National Office of Vital Statistics.

be reduced further at every stage of maternity. This can be accomplished through more widespread and more adequate prenatal care, through the provision of additonal hospital facilities, and through raising still higher the standards of obstetrical practice. The new hospital construction program will undoubtedly prove of great value in this effort. Special attention should be directed to the need for safeguarding maternity in areas of the country where the death rate is still relatively high. The need to curb the loss of life is especially urgent among nonwhite women. In 1946, the maternal death rate among nonwhite women was 36 per 10,000 live births, or 2¾ times the rate for the white.

CRUDE DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES
INDUSTRIAL PREMIUM-PAYING BUSINESS—*Weekly and Monthly Combined*
METROPOLITAN LIFE INSURANCE COMPANY
OCTOBER 1948

CAUSE OF DEATH	ANNUAL RATE PER 100,000 POLICYHOLDERS*				
	October 1948	October 1947	Year to Date: End of October		
			1948	1947	1946
ALL CAUSES—TOTAL	597.0	626.1	660.3	663.4	693.3
—Excluding war deaths	*596.9*	*625.7*	*660.2*	*662.8*	*679.7*
Typhoid fever	0.1	0.3	0.1	0.2	0.2
Measles	.1	.1	.6	.2	.7
Scarlet fever	—	.1	.1	.1	.1
Whooping cough	.1	.5	.4	.5	.6
Diphtheria	.1	.3	.2	.6	.6
Influenza	.5	.7	1.6	2.7	4.5
Pneumonia (all forms)	13.4	15.3	21.3	21.9	24.8
Tuberculosis (all forms)	22.7	30.5	27.2	31.3	34.6
Tuberculosis of respiratory system	20.6	27.3	24.7	28.2	31.2
Syphilis	5.4	5.0	6.3	6.8	7.2
Acute poliomyelitis	3.0	.8	.9	.5	1.3
Cancer (all forms)	109.6	106.9	112.6	108.0	105.1
Diabetes mellitus	21.8	23.6	23.6	23.5	23.6
Principal chronic cardiovascular-renal diseases	270.7	279.7	310.4	307.8	306.9
Cerebral hemorrhage	51.7	56.7	59.5	59.8	59.7
Diseases of the coronary arteries and angina pectoris	71.2	66.5	76.0	71.3	65.3
Other chronic heart diseases†	120.0	128.0	141.7	141.4	144.6
Chronic nephritis	27.8	28.5	33.2	35.3	37.3
Diarrhea and enteritis	2.8	2.7	2.8	3.4	2.8
Appendicitis	1.8	2.4	2.6	3.0	3.4
Puerperal state—total	2.1	2.3	2.3	3.2	3.3
Suicide	6.4	6.9	6.8	7.0	7.3
Homicide	3.3	3.0	3.5	3.5	3.6
Accidents—total	41.6	40.1	40.7	42.8	46.7
Home accidents	8.1	6.7	9.6	9.2	10.0
Occupational accidents	4.2	4.6	4.6	5.0	4.8
Motor vehicle accidents	17.7	14.3	13.7	14.7	15.4
War deaths (enemy action)	.1	.4	.1	.6	13.6
All other causes of death	91.4	104.5	96.4	95.9	102.4

*The rates for 1948 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†International List (1940) titles 92, 93 (c), (d), (e), and 95.

NOTE—The death rates in this table differ from the rates previously published on the basis of the Weekly Premium-Paying Business alone.

Correspondence on the subjects discussed in these BULLETINS may be addressed to:

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MORTALITY FROM ALL CAUSES

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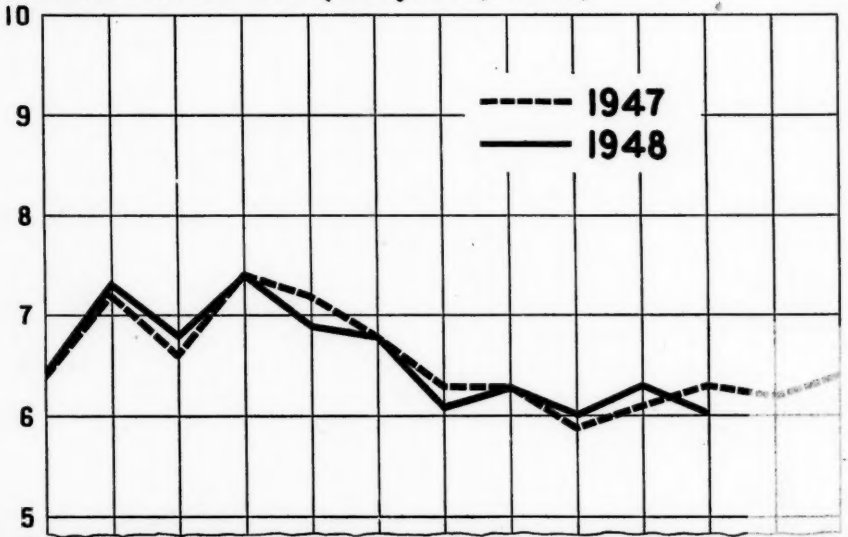
WEEKLY AND MONTHLY COMBINED

DEATH RATES PER 1,000 · ANNUAL BASIS (*1948 figures are provisional*)



	(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1947		7.2	6.6	7.4	7.2	6.8	6.3	6.3	5.9	6.1	6.3	6.2	6.4
1948		7.3	6.8	7.4	6.9	6.8	6.1	6.3	6.0	6.3	6.0		

NOTE—The death rates in this chart differ from the rates previously published on the basis of the Weekly Premium-Paying Business alone.

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